

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections and further examination are requested.

Initially, the Applicant wishes to thank the Examiner for conducting the telephone interview on September 5, 2008. During the interview, the applied art and arguments distinguishing the claims over the applied prior art were discussed. Moreover, proposed claims 41 and 42 were discussed, and it was agreed that if the subject matter of either of these proposed claims is incorporated into an independent claim, that the thus amended independent claim would distinguish over the references applied by the Examiner. However, the Examiner indicated that further search and/or consideration would be necessary.

Claims 3-7, 9-22, and 32-40 were pending in this application and stand rejected. Claims 3-5, 7, 9-12, 14-22 and 32-40 are amended herein, and claim 41 is added herein. Thus, claims 3-7, 9-22 and 32-41 are currently pending in this application. Note that claims 32-40 have each been amended to include the subject matter of proposed claim 41, as discussed during the September 5, 2008 interview, and that proposed claim 42 discussed during the September 5, 2008 interview is added herein as new claim 41. No new matter has been added.

The specification and abstract have been carefully reviewed in order to aid the Examiner in further consideration of the application. A substitute Abstract including revisions has been prepared and is submitted herewith. Also submitted herewith is a marked-up copy of the Abstract indicating the changes incorporated therein. No new matter has been added.

The claims have been rejected as detailed below.

Claims 3-7, 9-12, 14, 16-22 and 32-40 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Hoffberg et al. (U.S. Patent No. 6,400,996) (hereinafter referred to as “Hoffberg”) in view of Han et al. (U.S. Patent Application Publication No. 2003/0028531) (hereinafter referred to as “Han”).

Claims 13 and 15 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Hoffberg in view of Han and further in view of Baier et al (U.S. Patent No. 7,151,966) (hereinafter referred to as “Baier”).

Independent claims 32-40 have each been amended to include the subject matter of proposed claim 41 as discussed during the September 5, 2008 interview, and thus distinguish over the references cited by the Examiner. The above rejections are submitted to be inapplicable

to the amended claims for the following reasons.

Claim 32 recites a device linkage control apparatus that includes, in part, a control unit operable to control, in linkage with each other, device sets having a high frequency for being used in association with each other . . . wherein the control unit controls, in linkage with each other, at least a device A and a device B, and wherein an episode analysis unit (i) creates new episodes by extracting subtrees having, as new roots, nodes which are offspring of a node equivalent to a root of the frequent pattern tree, tracking nodes within each of the extracted subtrees starting from the root, and combining element data stored in the nodes, (ii) recursively performs the subtree extraction and the episode creation on the created episodes until there are no more subtrees, and (iii) reconstructs the frequent pattern tree by integrating recursively constructed subtree frequent pattern trees, into positions in the frequent pattern tree.

As admitted by the Examiner in the Office Action, Hoffberg does not disclose “subtrees having respective nodes of the frequent pattern tree as roots, the episode analysis unit constructs the frequent pattern tree with a structure in which element data having a highest frequency becomes a root of a subtree, the life pattern interpretation unit identifies, based on the frequent pattern tree, a device A and a device B, which have a high frequency for being used in association with each other, as a combination having a high association frequency, even when each of said device A and said device B are combined and used in association with various other devices, and the control unit controls, in linkage with each other, at least said device A and said device B.” The Examiner cited Han as teaching these features.

In contrast to the present invention, Han discloses a method of increasing the execution speed of apriori methods of data mining using frequent pattern trees 20 that include a root 22, and a plurality of nodes 24 linked to root 22. Each node corresponds to a frequent item in a database 10 and includes a counter 26. Moreover, there is no disclosure or suggestion to modify Han such that it extracts subtrees from the frequency pattern tree 20, recursively performs subtree extraction and episode creation on created episodes, and reconstructs the frequent pattern tree 20.

In other words, Han does not disclose *an episode analysis unit (i) [that] creates new episodes by extracting subtrees having, as new roots, nodes which are offspring of a node equivalent to a root of a frequent pattern tree, tracking nodes within each of the extracted subtrees starting from the root, and combining element data stored in the nodes, (ii) recursively*

performs the subtree extraction and the episode creation on the created episodes until there are no more subtrees, and (iii) reconstructs the frequent pattern tree by integrating recursively constructed subtree frequent pattern trees, into positions in the frequent pattern tree.

As discussed above, the Examiner admitted in the Office Action that Hoffberg does not disclose the “control unit controls, in linkage with each other, at least said device A and said device B,” and cited Han as disclosing this feature. However, Han clearly does not disclose a control unit.

During the September 5, 2008 interview, the Applicants representative argued that Han does not disclose a control unit as recited in claim 32. The Examiner agreed that Han does not disclose this feature and asserted that Hoffberg discloses this feature in col. 57, lines 1-6. However, the device described in col. 57, lines 1-6, is not operable to control, in linkage with each other, device sets having a high frequency for being used in association with each other. Thus, the Applicants respectfully submit that the device of Hoffberg does not correspond to the control unit as recited in claim 32.

For at least the reasons discussed above, it is believed clear that Hoffberg and Han fail to disclose or suggest the present invention as recited in claim 32.

Regarding the combination of Hoffberg, Han and Baier, Baier is relied upon in the rejection as teaching a life pattern interpretation unit comprising a confidence level. However, it is clear that Baier also fails to disclose or suggest the above-discussed features of the device linkage control apparatus recited in claim 32.

Regarding claims 33-40, they are patentable over the references relied upon in the rejections for reasons similar to those set forth above in support of claim 32. That is, each of claims 33-40 similarly include *creating new episodes by extracting subtrees having, as new roots, nodes which are offspring of a node equivalent to a root of a frequent pattern tree, tracking nodes within each of the extracted subtrees starting from the root, and combining element data stored in the nodes*. Moreover, each of claims 33-40 includes *performing, recursively, the subtree extraction and creating new episode operation on the created new episodes until there are no more subtrees, and reconstructing the frequent pattern tree by integrating recursively constructed subtree frequent pattern trees, into positions in the frequent pattern tree*.

For at least the reasons set forth above, it is respectfully submitted that the above-

discussed features as recited in claims 32 and 33-40 are not disclosed in the references applied by the Examiner. Furthermore, it is respectfully submitted that one of ordinary skill in the art at the time the invention was made would not have found it obvious to modify the primary reference under 35 U.S.C. § 103(a) in such a manner as to result in the invention of claims 32-40.

Therefore, it is respectfully submitted that claims 32 and claims 3-7, 9-22 and 41 depending therefrom, and claims 33-40 are clearly allowable over the prior art of record.

In view of the foregoing amendments and remarks, all of the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action are respectfully solicited.

Should the Examiner believe there are any remaining issues that must be resolved before this application can be passed to issue, it is respectfully requested that the Examiner contact the undersigned by telephone in order to resolve such issues.

Respectfully submitted,

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